CLAIMS

We Claim:

1. A method for performing testing of a device under test comprising:

connecting a first port of a first calibration module to the device under test;

connecting a second port of the first calibration module to a network analyzer;

connecting a first port of a second calibration module to the device under test;

connecting a second port of the second calibration module to the network analyzer;

performing a measurement calibration without disconnecting the first port and the second port of the first calibration module and without disconnecting the first port and the second port of the second calibration module; and,

testing the device under test without disconnecting the first port and the second port of the first calibration module and without disconnecting the first port and the second port of the second calibration module.

2. A method as in claim 1 additionally comprising the following steps performed before the measurement calibration is performed:

connecting a first port of a third calibration module to the device under test;

connecting a second port of the third calibration module to the network analyzer;

connecting a first port of a fourth calibration module to the device under test; and,

connecting a second port of the fourth calibration module to the network analyzer.

3. A method as in claim 1 additionally comprising the following steps performed before the measurement calibration is performed:

connecting a third port of the first calibration module to a third port of the second calibration module.

4. A method as in claim 1 additionally comprising the following steps performed before the measurement calibration is performed:

connecting additional equipment to a third port of the first calibration module.

5. A method as in claim 1 additionally comprising the following steps performed before the measurement calibration is performed:

connecting an additional device under test to a third port of the first calibration module.

6. A method as in claim 1 additionally comprising the following steps performed before the measurement calibration is performed:

connecting an external signal source to a third port of the first calibration module.

7. A method as in claim 1 additionally comprising the following steps performed before the measurement calibration is performed:

connecting a spectrum analyzer to a third port of the first calibration module.

8. A method as in claim 1 wherein performing the measurement includes:

performing a transmission calibration; and,

performing a reflection calibration.

9. A calibration module comprising:

a controller;

a memory that stores calibration parameters for the calibration module; and,

a multi-state circuit, including:

a first port,

a second port,

a third port,

a first switch connected to the first port,

a second switch connected to the second port, and

a third switch connected to the third port;

wherein a first pole of the first switch, a first pole of the second switch, and a first pole of the third switch are all connected together through transmission lines.

10. A calibration module as in claim 9 additionally comprising:

a fourth switch connected to a second pole of the first switch, a first pole of the fourth switch being connected to a first load; and,

a fifth switch connected to a second pole of the second switch, a first pole of the fifth switch being connected to a second load.

11. A calibration module as in claim 9 additionally comprising:

a fourth switch connected to a second pole of the first switch, a first pole of the fourth switch being connected to a first load;

a fifth switch connected to a second pole of the second switch, a first pole of the fifth switch being connected to a second load;

a first power sensor being connected to a second pole of the fourth switch; and,

a second power sensor being connected to a second pole of the fifth switch.

12. A calibration module as in claim 9 additionally comprising:

a fourth switch connected to a second pole of the first switch, a first pole of the fourth switch being connected to a first load;

a fifth switch connected to a second pole of the second switch, a first pole of the fifth switch being connected to a second load;

a first noise source being connected to a second pole of the fourth switch; and,

a second noise source being connected to a second pole of the fifth switch.

13. A calibration module as in claim 9 wherein:

the first switch includes field effect transistors arranged so that the first switch can provide an open to the first port and can provide a short to the first port; and,

the second switch includes field effect transistors arranged so that the second switch can provide an open to the second port and can provide a short to the second port.

14. A calibration module as in claim 9 wherein:

the first switch is connected to the first port through a transmission line;

the second switch is connected to the second port through a transmission line; and,

the third switch is connected to the third port through a transmission line.

15. A calibration module as in claim 9 additionally comprising:

a data port operable to communicate with test equipment.

16. A multi-state circuit for use within a calibration module comprising:

a first port;

a second port;

a third port;

a first switch connected to the first port;

a second switch connected to the second port; and,

a third switch connected to the third port;

wherein a first pole of the first switch, a first pole of the second switch, and a first pole of the third switch are all connected together through transmission lines.

17. A multi-state circuit as in claim 16 additionally comprising:

a fourth switch connected to a second pole of the first switch, a first pole of the fourth switch being connected to a first load;

a fifth switch connected to a second pole of the second switch, a first pole of the fifth switch being connected to a second load;

a first power sensor being connected to a second pole of the fourth switch; and,

a second power sensor being connected to a second pole of the fifth switch.

18. A multi-state circuit as in claim 16 additionally comprising:

a fourth switch connected to a second pole of the first switch, a first pole of the fourth switch being connected to a first load;

a fifth switch connected to a second pole of the second switch, a first pole of the fifth switch being connected to a second load;

a first noise source being connected to a second pole of the fourth switch; and,

a second noise source being connected to a second pole of the fifth switch.

19. A multi-state circuit as in claim 16 wherein:

the first switch includes field effect transistors arranged so that the first switch can provide an open to the first port and can provide a short to the first port; and,

the second switch includes field effect transistors arranged so that the second switch can provide an open to the second port and can provide a short to the second port.

20. A multi-state circuit as in claim 16 additionally comprising:

a fourth switch connected to a second pole of the first switch, a first pole of the fourth switch being connected to a first load; and,

a fifth switch connected to a second pole of the second switch, a first pole of the fifth switch being connected to a second load.